Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

113. **Proposed by T. W. PALMER, Professor of Mathematics, University of Alabama, University, Alabama.**

Given three concentric circles. Draw a straight line from the inner to the outer circumference that shall be bisected by the middle circumference.

⁂ Solutions of these problems should be sent to B. F. Finkel not later than February 10.

MECHANICS.

79. **Proposed by WALTER H. DRANE, Graduate Student, Harvard University, Cambridge, Mass.**

The four wheels of a street car are rigidly fixed to their axles so that axles and wheels turn together. Is it more advantageous to apply the brakes to the front or to the rear wheels, supposing the brakes to block the wheels in each case ?

80. **Proposed by B. F. FINKEL, A. M., M.Sc., Professor of Mathematics and Physics, Drury College, Springfield, Mo.**

A circular board is placed on a smooth horizontal plane and a boy runs with uniform speed around on the board close to its edge. Find the motion of the center of the board.

81. **Proposed by JAMES S. STEVENS, Professor of Physics, The University of Maine, Orono, Me.**

Two iron spheres whose weights are a and b and a is greater than b, are suspended over a frictionless pulley so that they move in a liquid medium of density δ. Assume that the density of the iron is δ', what would be the spaces passed over (downward by a and upward by b) in the first four seconds, if the spheres start from rest?

⁂ Solutions of these problems should be sent to B. F. Finkel not later than February 10.

◆

EDITORIALS.

We take this opportunity to express our thanks to our valued contributor, Prof. J. Scheffer, for preparing the index to this volume of the MONTHLY.

Prof. Edgar W. Bass, author of *Elements of Differential Calculus*, and Professor of Mathematics in the United States Military Academy at West Point for the past twenty years, has been placed on the retired list.

This issue concludes the fifth volume of the MONTHLY. The benefit the MONTHLY has done for the progress and advancement of mathematics during the past year must be told by others, but from the many enthusiastic testimonials we have received during the course of the year, the inference is that it is quite material. A number of important articles by some of our foremost mathematicians have appeared during the year. These articles are of the highest interest and value, dealing as they do with the more recent discoveries in mathematics. It is to be hoped that a larger number of contributors in the new fields of mathematical investigation will be added to those who are now carrying on this work ; for we believe that no other mathematical journal in this country offers such a great opportunity to reach the large body of teachers of mathematics as does the MONTHLY.

For example, *The American Journal of Mathematics* has a very limited constituency in this country, the reason being that it deals with only the highest subjects of mathematics and the treatment of these subjects are too abstruse and recondite to be read by any but the most advanced students of mathematics. *The Annals of Mathematics* being of a slightly less advanced character appeals to a larger body of readers, and therefore exerts a wider *influence* on the development of mathematics among us.

Five years ago, it seemed that the time had arrived when another mathematical journal could be started, which would draw to its support all persons interested in the unraveling of intricate problems in the various branches of mathematical as well as those who had gone far beyond this stage into the field of original research. It was believed then, and five years experience in the work has confirmed the belief, that a journal devoting about half its space to the solution of problems, and the other half to mathematical papers by acknowledged authorities in the various lines of original investigation, would be of great value.. In a few cases we have published some papers from considerations other than scientific. We admit that such considerations are unfortunate, but in the editing of a scientific magazine, there are not unfrequently problems proposed more difficult of solution than merely deciding as to the merits of any particular article for publication. The editor of the MONTHLY has had many of these to solve. However, the appearance of unscientific articles is very rapidly diminishing, and we hope that none will appear in the future.

An apology for a department of Problems and Solutions in the MONTHLY may be found in Professor Elliott's address before the London Mathematical Society on November 10. Among other things, he says, "Secondary work is necessary that the transition from narrow to widened views of Mathematical opportunity be effected surely and without discouragement. The passion among us for examination into elegant incidentals, which shows itself in the fascination exercised by problem making and solving, must be reckoned with, and in my opinion not discouraged. Unambitious work of definitely educational intention in subjects now made known to the select few by ambitious treatises is needed.

Unassuming partial and introductory books of didactic character on modern subjects are wanted." We make mention of this, because our best mathematicians have treated too lightly the importance of well chosen problems as means to stimulate the inquirer to press his investigations into the vaster regions beyond the stage of mere problem solving. If those who are sitting in the dazzling light of truth would only condescend to hand down some of the truths so very clear to them in a form easily translated by those sitting in darkness, vast improvement in mathematical teaching would quickly follow. Only quite recently has there been a move in this direction. Men of acknowledged ability are now beginning to see that the way to improve the teaching of mathematics is to improve the works in the elementary branches. To this work, Professor Klein is now devoting much of his time, and it is to be hoped that many of the great teachers and creators of modern mathematics may follow his example.

There seems to be room for one more mathematical journal in this country. It is a journal particularly adapted to the wants of that large body of teachers of mathematics in our High Schools. What sort of a journal this body of workers want we are unable to say, but true it is that very few of them read any of the mathematical journals now published in this country. Not more than half a dozen are found on our list of subscribers while we believe that not so many are found on the lists of the *American Journal of Mathematics* and *The Annals of Mathematics* together. There is not one reason but a number of reasons why this condition exists, a discussion of which would lead us entirely beyond the limits of a mere note. But one reason is that the great majority of the positions in our high schools are filled without any special reference to the qualification of the applicant to teach mathematics, it being a prevalent opinion that any one who has the multiplication table well at hand is quite competent to teach mathematics, and thus many of our high school positions are filled by persons who are as absolutely incompetent to teach mathematics as is a person who only knows the Greek alphabet to teach Greek. We are not saying that teachers of mathematics in our high schools do not read any literature on the subject they teach. Many of them read quite a good deal, but if some of this reading were devoted to some good, live mathematical journal instead of reading the extended discussions of the "idiotic" Grube Method and kindred methods found in the ordinary educational journals, it would be better for the teacher and infinitely better for his pupils. Hence, if these positions were filled by persons who are in love with their subject, a journal of the scope of the MONTHLY might meet their wants.

If every college and university would follow the principle established by one of our largest universities, viz., to fill mathematical positions with first-class teachers of mathematics, a very necessary improvement would follow in a very short time. Not infrequently are mathematical positions filled by persons who, while in college, took an extended course in latin, or Greek, or History, and their work in mathematics not extending beyond trigonometry. This is always done to the great detriment of mathematics both as a science and as an art.

While such conditions exist, it is desirable that every opportunity available should be siezed to make improvements in the teaching of mathematics, by, as much as possible, filling positions in mathematics with good teochers of mathematics, and by improving the methods of presenting the fundamental principles of the science in our elementary text-books.

The MONTHLY offers at present the best opportunity to disseminate sound doctrine in the elementary branches, and if some of our best mathematicians would take up this work, great and lasting good would result.

We take this opportunity to thank Dr. Miller for the good work he is doing in discussing the Group Theory ; to Dr. Halsted for his continued articles on Non-Euclidean Geometry ; to Dr. Roe for his articles on Symmetric Functions ; and to all others who have contributed articles, problems, and solutions. We shall rely on your continued support during the coming year, and by united effort much may be accomplished to create a larger interest in mathematics.

Efforts are being made to make the MONTHLY a permanent factor in the development and progress of mathematics in the United States, either by endowing it so that it may remain where it is now or by transferring it to some university where ample provision will be made for its perpetual maintenance.

BOOKS AND PERIODICALS.

A Treatise on Roofs and Bridges with Numerous Exercises. By Edward A. Bowser, LL. D., Professor of Mathematics and Engineering in Rutgers College. 8vo. Cloth. 195 pages. New York : D. Van Nostrand Co.

This little work is in line with the other works written by Dr. Bowser. Logical order, simplicity of treatment even with a difficult subject are the prominent features of the work. The principles and methods employed in finding the forces in Roofs and Bridges are clearly explained. The whole subject is discussed and developed in accordance with the best methods used in the modern practice of Roof and Bridge construction.

B. F. F.

The American Monthly Review of Reviews. An International Illustrated Monthly Magazine. Edited by Dr. Albert Shaw. Price, $2.50 per year in advance. Single numbers, 25 cents. The American Monthly Review of Reviews Co., 13 Astor Place, New York.

The question of the bearings of our federal Constitution on the government of newly acquired territories, about which so much haze seems to have gathered in the popular mind, is very clearly and exhaustively treated in the *American Monthly Review of Reviews* for January by Professor Harry Pratt Judson, of the University of Chicago. Professor Judson reaches the conclusion that the Constitution presents no difficulties whatever to our acquisition and control of such territories as the Philipines, for example.

B. F. F.

The Cosmopolitan. An International Illustrated Monthly Magazine. Edited by John Brisben Walker. Price, $1.00 per year in advance. Single number, 10 cents. Irvington-on-the-Hudson.

Julian Ralph, who has been for some years in England, writes for the December *Cosmopolitan* a very clever analysis of what seems to him the English ideas of a gentleman ; and Mr. John Brisben Walker attempts to consider the American ideals. We are in the formative stage of American manners, and too much stress can scarcely be given to the dangers of introducing those ideas which are least admirable in th character of our English cousins.

B. F. F.

THE AMERICAN MATHEMATICAL MONTHLY'S Clubbing List :

	REGULAR PRICE.	WITH MONTHLY.
Scientific American	$3 00	$4 50
Popular Astronomy	2 50	4 25
Scientific American and Supplement	7 00	7 60
American Monthly Review of Reviews	2 50	4 00
The Cosmopolitan	1 00	2 82
McClure's	1 00	2 82
The Forum	3 00	4 50
The Outlook	3 00	4 75

Other magazines not mentioned above may be obtained from us at reduced rates.